

# Work Order ID 54894

January 5, 2010 8:35:56 AM



Page 1

Item ID: D205-634-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 05/01/2010 Start Qty: 1.00



Required Date: 18/01/2010 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Run Start



Approvals: Process Plan: *PL*

Date: 10-1-05 Tooling:

Date:

Stop



QC:

Date: SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D2580

Rev D

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-634 bluefile & type labels per PPP D205-634-041 CHG002

*PL 10-1-26*

110

0.00



BENDING MACHINE - SKIDTUBES

CNC Bend I

Memo

0.00

CNC Delta 100 Bender

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

*(IX) Q MS 10-01-07*

*894*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

**Work Order ID 54894**

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Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

120

0.00



Skidtubes

Memo

0.00

Skidtubes

1- Deburr ends

2- C'sink holes as per dwg without cutting fluid

3- Prepare tube for welding, remove alodine as required.

4- Scribe batch number insied aft end of tube.

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

①

BE 10-01-11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

140

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R Aluminum Rod

MI12860

BE

10/01/12

2-Prep per QSI 005 and weld crossbolt spacers D2579 as per Dwg. D2580, QSI 004.

For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R Aluminum Rod

MI12860

BE

10/01/12

3-Grind welds as per Dwg D2580 Grind flush ridge made from bending

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

5-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Debur holes.

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Towing using DT8091, open to .640" and Debur

AWM

10-1-13

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

150

QC10- Inspect visual per QSI004- ground welds

0.00



⇒ 8/10/13



QC

Memo

0.00

Quality Control

160

QC5- Inspect part completeness to step on W/O

0.00



⇒ 8/10/13



QC

Memo

0.00

Quality Control

170

Pressure Wash per QSI005 4.3

0.00



10-01-15



HandFinish

Memo

0.00

Hand Finishing

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw Draw Plan  
Number Rev. Code

Accept Reject Reject Insp.  
Qty Qty Number Stamp

180

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

M113\$88

0.00

=> M 10-01-15

(X) 0

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

10:15AM  
320°F  
10:45AM

190

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

BK 10-01-19

0 0

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

200

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates  
A/R ☐ ☐ Sikaflex-291 112900 ☐ ☐  
Sikaflex expire date: 10/08

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive  
A/R ☐ ☐ Sikaflex-291 112900 ☐ ☐  
Sikaflex expire date: 10/08

5-Wing Walk as per Dwg D2580 and QSI 005 4.4  
Batch: 112900

LR 10-01-19 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**Work Order ID 54894**

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Item ID: D205-634-041

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Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 05/01/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 18/01/2010 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

210

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

7/ 5/10/1/20



Quality Control

Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

220

Packaging

0.00



Packaging

Memo

0.00

Identify and pack for shipping as per PPPD205-634-041

Location:

PPP Rev:

I

10/01/2010

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/01/27

MF

10-1-27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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# Picklist Print

January 5, 2010 8:41:10 AM

Page 1

Work Order ID: 54894

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
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D2580-1

Manufactured

No

110

Each

8.0000

1.0000



205 Skidtube bent detail



MS 10-01-07

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

LG

4

54120

1

54279

1

54541

2

Main Warehouse

ST

4

54500

2

54647

2

D2576-3

Manufactured

No

140

Each

151.0000

1.0000



Step (maching detail)



## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

151

43504

3

46661

101

52215

47

BB 10/01/12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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January 5, 2010 8:41:11 AM

Work Order ID: 54894

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Comments:

Component Item ID Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
--------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D2579		Manufactured	No			140	Each	381.0000	20.0000			
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Crossbolt Spacer

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG 259

51525 4

53780 3

54543 38

54642 214

Main Warehouse

ST 122

43988 4

46434 4

46956 2

47797 9

48272 2

51314 71

51315 30

20 25 10/01/12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Component Item Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2855		Manufactured	No			200	Each	160.0000	1.0000			

Cap

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP6	160	
50513	1	
50770	1	
51539	42	
53791 ✓	116	

200 Each 1,975.000 2.0000

AN3-5A

Purchased

No

Bolt

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	1975	
100188 ✓	188	
105057 ✓	1787	

W/O:		WORK ORDER CHANGES					
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AN960JD10L 		Purchased	No			200	Each	4,915.000	2.0000			
Washer												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	4915	
101291	16	
104885	25	
105793	236	
109632	174	
110985 ✓	4464	

ALS7-1032-130	Purchased	No	200	Each	1,530.000	50.0000
						
Insert						

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	1530	
105855	16	
108606	52	
111529	188	
111779 ✓	313	
112772	11	
113238	950	

2. BL 10-01-19.

50 BL 10-01-19.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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AN3C4A Purchased No

200

Each

1,195.000

50.0000



BOLT

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

1195

112314

13

112720

12

112724

3

112829

1

112991

2

113121

64

113226

586

113359

14

113422 ✓

500

200

Each

416.0000

50.0000

AN960C10L

Purchased

No



washer

NA51149C0332R.

## Warehouse

## Loc Qty

## Loc Code

### Location

OFFSHORE

FG

100

103585

100

Main Warehouse

ST

316

112116

156

112612

160

Shop Packet Print

January 5, 2010 8:41:11 AM

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D3566-13

Manufactured

No

200

Each

94.0000

1.0000



Gasket

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

92

51606 ✓

9

53461

83

Main Warehouse

ST

2

45717

1

50265

1

D3566-5

Manufactured

No

200

Each

15.0000

1.0000



Gasket

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

FP

11

53804 ✓

11

Main Warehouse

ST

4

36113

1

46186

1

47318

1

51260

1

1 10-01-19.

1 10-01-19.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 5, 2010 8:41:11 AM

Work Order ID: 54894

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Comments:

Component Item ID Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3566-1		Manufactured	No			200	Each	27.0000	2.0000			
Gasket												

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

FP                      22  
52512                      3  
54480 ✓                      19

Main Warehouse

ST                      5  
46349                      1  
51218                      1  
51259                      3

2 BR 10-01-19.

D3564-11                      Manufactured                      No  
Wearshoe

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse

FP19                      14  
52125 ✓                      14

Main Warehouse

ST                      2  
45823                      1  
50112                      1

1 BR 10-01-19.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 5, 2010 8:41:11 AM

Work Order ID: 54894

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Comments:

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3564-13		Manufactured	No			200	Each	34.0000	1.0000			
Wearshoe												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP17

22

51611 ✓

22

Main Warehouse

ST

12

45409

2

46495

10

D3564-9

Manufactured No

200

Each

13.0000

1.0000

Wearshoe

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP19

11

53806 ✓

11

Main Warehouse

ST

2

44659

1

45825

1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

January 5, 2010 8:41:11 AM

Work Order ID: 54894

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube



Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Comments:

Component Item ID Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issue	Status
D3564-5		Manufactured	No			200	Each	14.0000	1.0000			
												
Wearshoe												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	2	
34806	2	
Main Warehouse		
FP19	10	
51925	1	
53805	9	
Main Warehouse		
ST	2	
45824	1	
47433	1	

1 PR 10-01-19.

D2594-3

Manufactured No

200

Each

362.0000

16.0000



O-Ring, 205 Skidtube

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP	27	
51613	27	
Main Warehouse		
ST	335	
52562	335	

16 PR 10-01-19.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

January 5, 2010 8:41:11 AM

Work Order ID: 54894

Parent Item: D205-634-041

Parent Item Name: Replacement Skidtube

Comments:

Start Date: 05/01/2010

Required Date: 18/01/2010

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2594-1		Manufactured	No			200	Each	250.0000	16.0000			

Plug, 205 Skidtube

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP	122	
54008	17	
54643 ✓	105	
Main Warehouse		
ST	128	
42221	16	
42807	92	
43884	3	
46435	2	
51527	9	
51757	6	

16. 15-01-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED  
07 06 28

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 34894

BA 104-05

#### GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

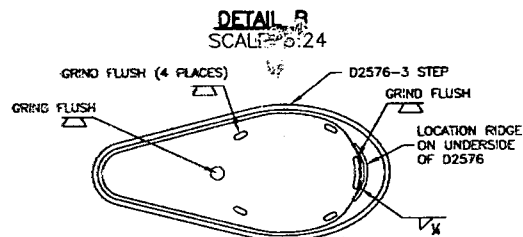
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

SCALE 5:24

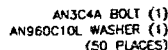


RELEASED  
07 Dec 28

SCALE 5:24



**SECTION D-D**  
**SCALE 5:24**



37.50'  
DISTANCE TO AFT END  
OF D2596 WEB

36.0'

190.0'  
(D2500-1)

1.750'

8.750'

17.375'

26.000'

34.188'

57.313' (REF)  
7 EQUAL SPACES  
8.188' PITCH

91.500'

0.508 (TYP.)  
(40 PLACES)

REFER TO DETAIL A

Diagram illustrating the geometry of a road cross-section showing a sag vertical curve. The diagram includes a horizontal centerline, a sag curve with a 1.4m depth, and a 20.0m radius. It also shows a 1.0m distance between the hole and the tangent point, and a 32.0 ± 1.0m distance between the hole and the tangent point. A 1.0m distance is also indicated between the hole and the tangent point.

**WELD AS PER DETAIL B**

**BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE**

**BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE**

0.5 1.5 1.5 D P P P P P P P

REFER TO DETAIL C

D3566-1 D3566-5 D3566-1 D3566-13

D3564-11 D3564-5 D3564-9 D3564-13

AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(50 PLACES)

DESIGN	of	DRAWN BY	
--------	----	----------	--

FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

DESIGN	<i>[Signature]</i>	DRAWN BY	<i>PH</i>
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>
DATE			
07.02.27			

DRAWING NO.	REV. D
D2580	SHEET 2 OF 3
TITLE	SCALE
205 SKIDTURE ASSEMBLY	1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

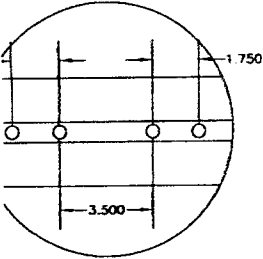
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

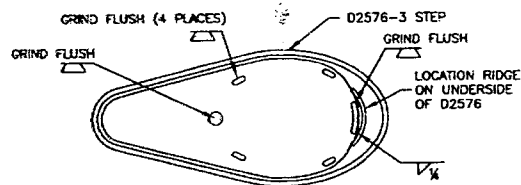
**NOTE:** Date & initial all entries

**DETAIL E**  
SCALE 5:24

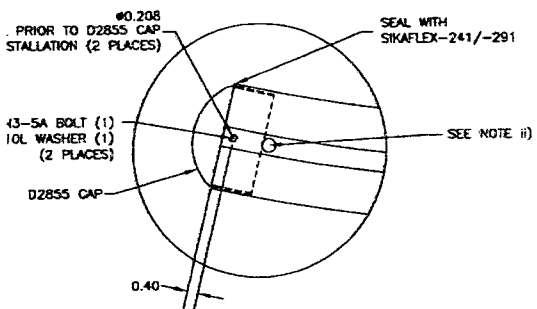


**RELEASED**  
07.06.28

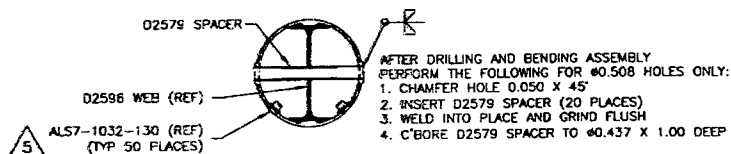
**DETAIL F**  
SCALE 5:24



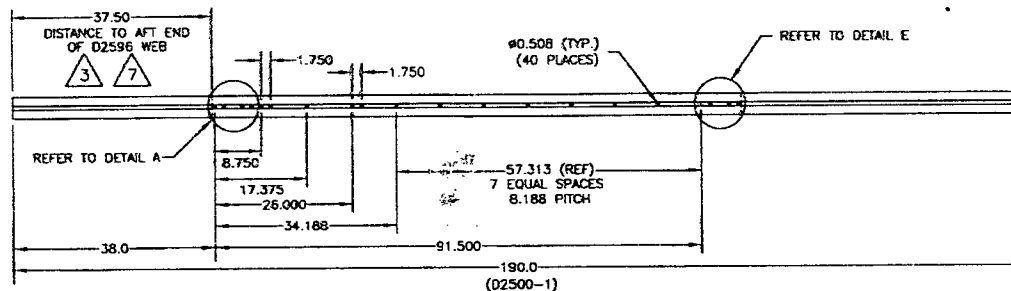
**DETAIL G**  
SCALE 5:24



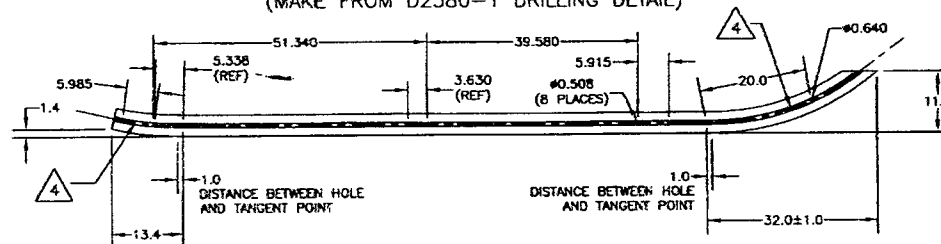
**SECTION H-H**  
SCALE 5:24



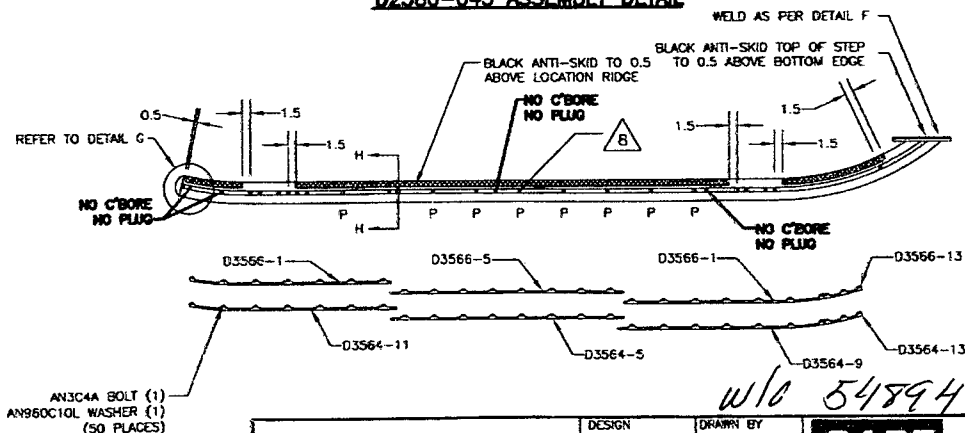
**D2580-1 DRILLING DETAIL**



**D2580-5 BENDING AND CUTTING DETAIL**  
(MAKE FROM D2580-1 DRILLING DETAIL)



**D2580-045 ASSEMBLY DETAIL**



**-045 NOTES**

FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4  
IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

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DESIGN PH	DRAWN BY PH	<b>DART</b>	DART AEROSPACE LTD. WARRICKBURY, OXFORD, CANADA
CHECKED H	APPROVED H	DRAWING NO. D2580	REV. 0
DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SHEET 3 OF 3	SCALE 1:24

W10 54894

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



NO. 221

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 542020  
Part number: D205 634 041  
Description: 205 skid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier [Signature] Date of Test Coupon 09.12.17  
Welder Barclay Elliott Date of Test Coupon 09.12.17

The above named individual is qualified in accordance with AWS D17.1.2001 to weld